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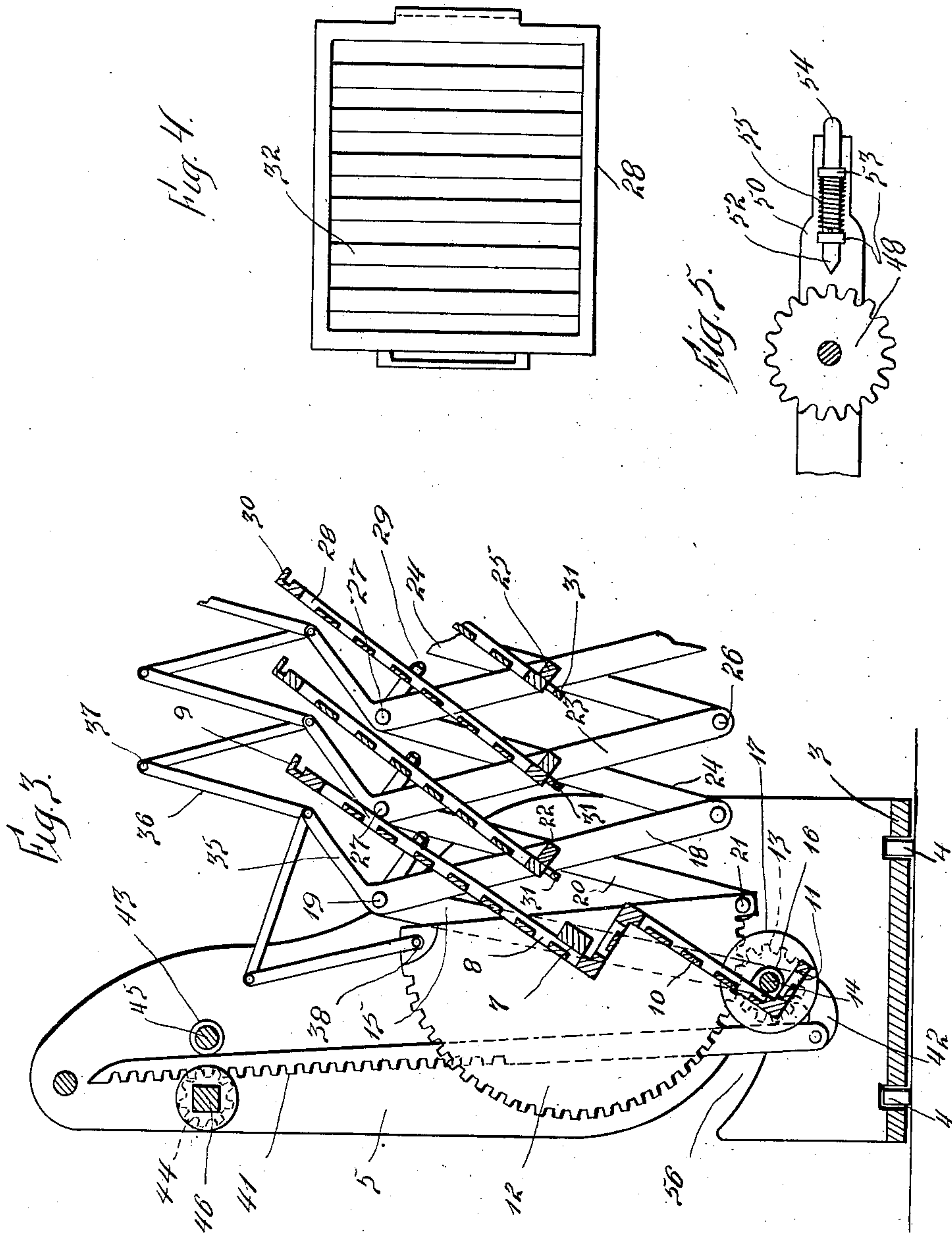
GANG PLANK.

APPLICATION FILED JULY 15, 1909.

960,022.

Patented May 31, 1910.

3 SHEETS—SHEET 3.



Witnesses

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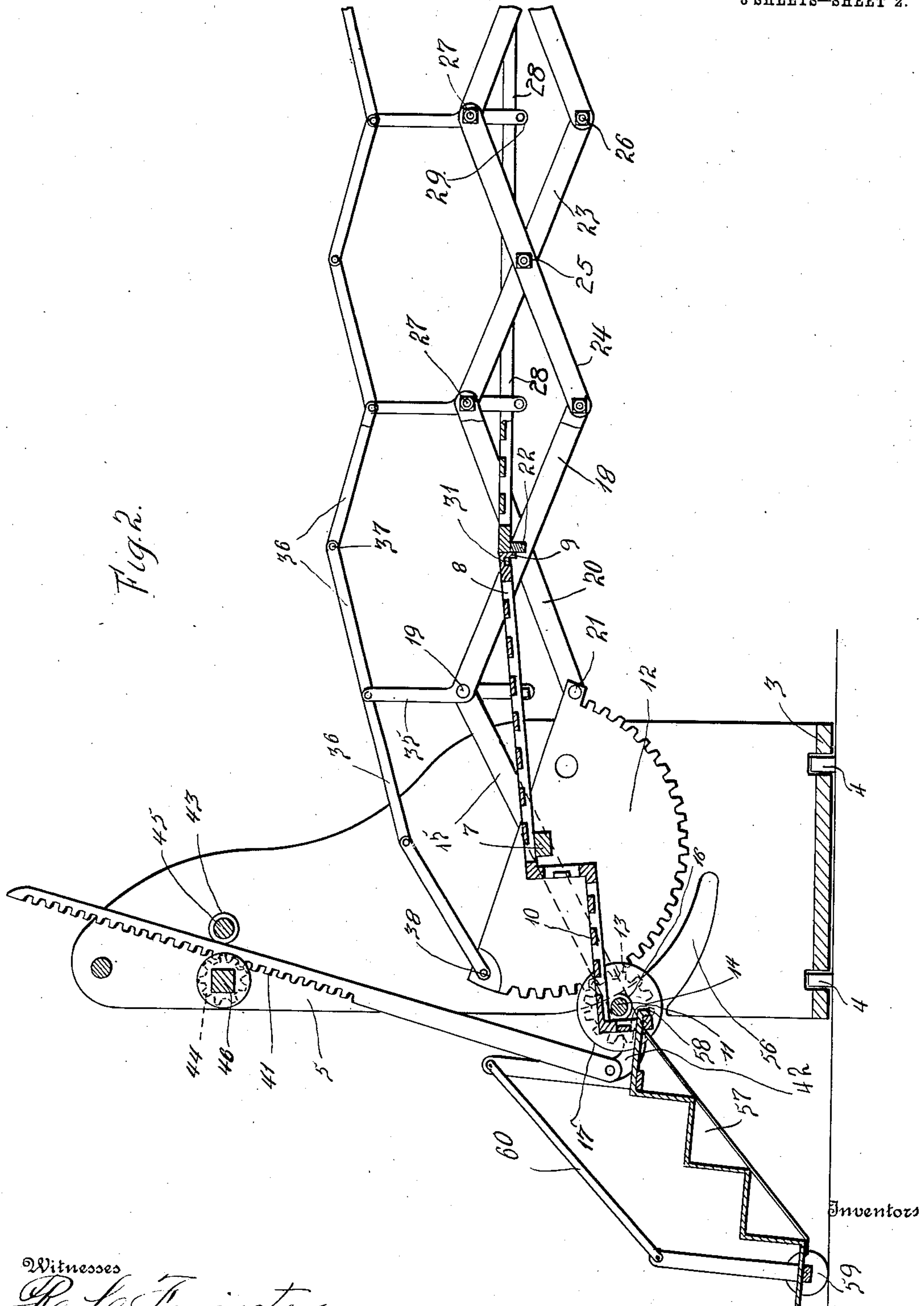
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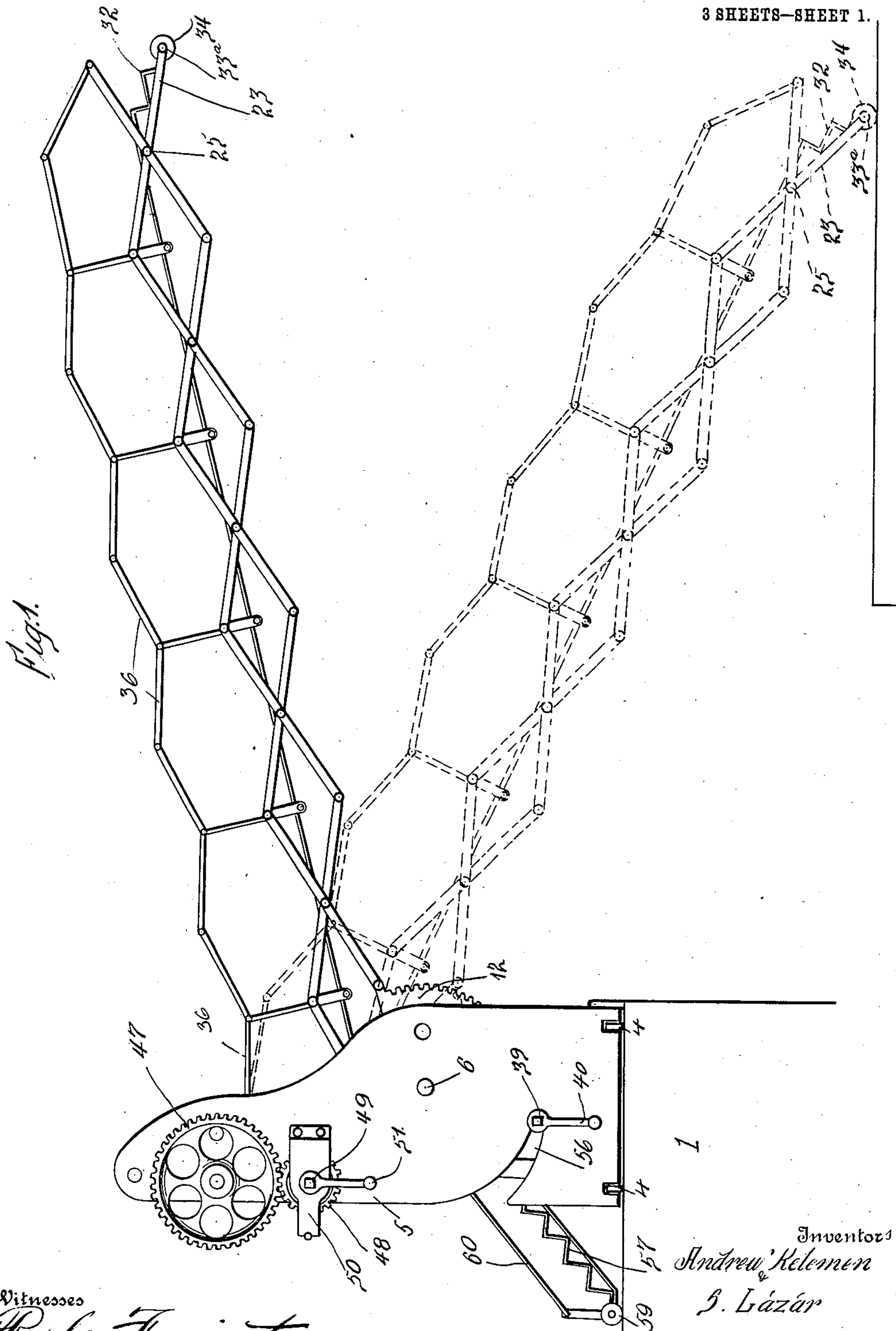
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3 SHEETS—SHEET 1.



Witnesses

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UNITED STATES PATENT OFFICE.

ANDREW KELEMEN AND STEPHEN LÁZÁR, OF YOUNGSTOWN, OHIO.

GANG-PLANK.

960,022.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed July 15, 1909. Serial No. 507,767.

To all whom it may concern:

Be it known that we, ANDREW KELEMEN and STEPHEN LÁZÁR, subjects of the King of Hungary, residing at Youngstown, in the 5 county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Gang-Planks, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to gang-planks, and the invention has for its primary object to provide a foldable or collapsible gang-plank, that can be easily extended to provide safe passage of a person from the deck of a ves-
15 sel to the wharf or vice versa.

Another object of the invention is to provide a gang-plank constructed on the principle of lazy tongs, the various planks being easily and compactly folded when the gang-
20 plank is not in use, and quickly extended and adjusted to place the planks in position to be traversed.

A further object of this invention is to provide a collapsible gang-plank that can
25 be easily used upon a ship deck for landing persons, or upon a wharf for loading persons, and the gang-plank can also be used as a draw bridge in connection with small streams and canals.

30 The above objects are attained by a strong and durable structure that has been particularly designed for a ship deck, particularly cruising ships and river boats, that have wharves and landing places that do not al-
35 ways conform to the unloading or discharge passage of a boat or ship, it often being necessary to place a gang-plank at such an inclination that the same cannot be safely ascended or descended. This is particularly
40 true in connection with river boats using gang-planks without railings.

In constructing our improved gang-plank, we have made provision for adjusting the same longitudinally and vertically, whereby
45 it will not be necessary for a boat to run any danger of grounding by moving too far in shore to load or unload passengers. The gang-plank can also be used to an advantage at sea in transferring passengers from one
50 boat to another, irrespective of the size of the boats.

The invention will be hereinafter considered in detail and then claimed, and reference will now be had to the drawings forming a part of this specification, wherein there
55 is illustrated a preferred embodiment of the

invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, shape and manner of assemblage without departing from the 60 spirit of the invention.

In the drawings: Figure 1 is a side elevation of the gang-plank in an extended elevated position in full lines, and in an extended and lowered position in dotted lines, 65 Fig. 2 is an enlarged longitudinal sectional view of a portion of the same, Fig. 3 is a similar view showing a portion of the gang-plank collapsed or folded, Fig. 4 is a plan of one of the planks, and Fig. 5 is an ele-
70 vation of a lock, forming part of the gang-plank.

In the drawings, 1 denotes a boat deck or wharf landing for a horizontal revoluble platform 3, said platform being provided 75 with anti-friction rollers or wheels 4, permitting of the platform being easily swung in a horizontal plane, whereby the gang-plank can be used from either side of a boat deck or wharf landing. 80

5 denotes vertical parallel standards carried by the platform 3, and revolubly mounted in said standards is a transverse shaft 6 having that portion thereof between said standards rectangular, as at 7, to sup- 85 port a plank section 8, having the forward end thereof provided with a connecting hook 9, while the rear end thereof is stepped, as at 10, and provided with a socket 11.

12 denotes toothed sectors loosely mounted 90 upon the shaft 6 at the inner sides of the standards 5. The sectors 12 are adapted to mesh with pinions 13 mounted upon a transverse shaft 14, journaled in tilting bars 15, mounted on the shaft 6 between the stand- 95 ards 5 and the sectors 12. The stepped end 10 of the plank 8 is provided with bearings 16 for the shaft 14, and said shaft at the sides of the plank 8 is provided with disks 17, to shield the pinions 13 from persons 100 walking upon the plank 8.

18 denotes lazy tong links pivotally connected to the upper ends of the bars 15, as at 19, and 20 denotes lazy tong links pivotally connected to the lower ends of the sec- 105 tors 12, as at 21. The links 18 and 20 are pivotally connected together by a transverse axle 22, and these links form the main support for two parallel lazy tong arms, the arms consisting of links 23, similar to the 110 links 18, and links 24 similar to the links 20, said links being pivotally connected in-

intermediate their ends by transverse axles 25, and their ends pivotally connected together by bolts 26 and 27.

28 denotes planks pivotally connected to stirrups 29 suspended from bolts 27, said planks having the rear ends thereof fixed to the axles 22 and 25. The outer ends of the planks 28 are provided with connecting hooks 30 similar to the hooks 9, while the rear ends of said planks are provided with sockets 31 adapted to receive the connecting hooks 9 and 30 when the planks longitudinally aline. As shown in Figs. 3 and 4 of the drawings, the planks 8 and 28 are preferably made of rectangular frames provided with transverse slats 32, to provide sure footing, as well as the rapid removal of dirt and water that might accumulate upon a gang-plank. The links 23 at the outer ends of the lazy tong arms have the lower ends thereof provided with steps 32 supported by the axle 25, and a transverse pin 33^a connecting the lower ends of the links 23. The pin 33^a adjacent to the links 23 is provided with revoluble rollers 34, whereby the outer end of the gang-plank can be easily moved over a surface, as a ship deck or wharf landing.

To provide a railing for the gang-plank, the links 18 and 23 are provided with angular extensions 35, and these extensions are pivotally connected to links 36, which are pivotally connected together, as at 37. The outermost links 36 are connected to the outermost links 24, while the innermost links 36 connect the links 18 with the upper ends of the sectors 12, as at 38.

The lazy tong arms of the gang-plank are adjusted by moving the sectors 12 through the medium of the pinions 13, and this is accomplished by providing the shaft 14 with rectangular ends 39 for cranks 40. By rotating the cranks 40, the sectors 12 can be swung to open or close the gang-plank.

The mechanism employed for raising and lowering the outer end of the gang-plank comprises toothed pitmen 41, pivotally connected to the lower curved ends 42 of the bars 15, the pitmen extending upwardly between anti-friction rollers 43 and pinions 44, said pinions meshing with the teeth of the pitmen. The anti-friction rollers 43 are revolubly mounted upon a transverse shaft 45 connecting the standards 5, while the pinions 44 are mounted upon a transverse shaft 46 journaled in the standards 5. One end of the shaft 46 is provided with a large gear wheel 47 meshing with a small gear wheel 48 mounted upon a shaft 49, journaled in one of the standards 5, and the brackets 50 carried by said standard. A crank 51 is fitted upon the end of the shaft 49 for rotating the gear wheels 47 and 48 to raise and lower the pitmen 41.

To lock the pitmen in an adjusted posi-

tion, the bracket 50 is provided with a lock, comprising a spring pressed pawl 52, movably mounted in bearings 53 carried by the inner side of the bracket 50. The pawl is adapted to engage the gear wheel 48, and prevent said gear wheel from rotating. The outer end of the pawl is bent, as at 54, to engage an end of the bracket 50 and retain the pawl out of engagement with the gear wheel 48. When the end of the pawl is disengaged from the bracket, a spring 55 encircling said pawl is adapted to retain the pawl in engagement with the gear wheel 48.

In order that the pitmen 41 can be adjusted, the standards 5 are provided with segment-shaped slots 56, these slots being described with a radius having for its center the shaft 6, so that irrespective of the position of the bars 15, the shaft 14 can be rotated to open or close the gang-plank.

In connection with the plank 8, we provide a detachable stairway 57 having the upper end thereof provided with a connecting hook 58 to engage in the socket 11 of the plank 8. The lower end of this stairway is supported by a revoluble wheel 59, and the stairway is provided with a suitable railing 60.

From the foregoing description it will be observed that the gang-plank can be easily opened and closed, and when in an open position adjusted whereby the outer end of the gang-plank will be supported either in a raised or lowered position relative to the plank 8, allowing passengers either to ascend or descend with perfect safety.

The gang-plank can be advantageously used as a draw bridge in connection with canals and such bodies of water where it is impossible to maintain a permanent structure, and by suitably anchoring the revoluble platform 3, the gang-plank or draw bridge can be made of considerable length.

Having now described our invention what we claim as new, is:—

1. A gang plank, comprising standards, a shaft journaled in said standards, a plank fixed to said shaft between said standards, toothed sectors loosely mounted upon said shaft, bars fixed upon said shaft, lazy tong arms connecting with said bars and said toothed sectors, planks arranged between said arms and adapted to aline with the first mentioned plank, collapsible railings supported by said arms and connecting with said toothed sectors, means carried by said bars for moving said toothed sectors, and means arranged between said standards for raising and lowering the lower ends of said bars.

2. A gang-plank comprising standards, a shaft journaled in said standards, a plank fixed to said shaft between said standards, toothed sectors loosely mounted upon said shaft, bars fixed upon said shaft, lazy tong arms connecting with said bars and said

toothed sectors, planks arranged between said arms and adapted to aline with the first mentioned plank, collapsible railings supported by said arms and connecting with said toothed sectors, means carried by said bars for moving said toothed sectors, means arranged between said standards for raising and lowering the lower ends of said bars.

3. A gang-plank comprising a revoluble platform, standards carried by said platform, a shaft journaled in said standards, a plank fixed upon said shaft between said standards, toothed sectors loosely mounted upon said shaft, a shaft journaled in the lower ends of said bars, pinions mounted upon said shaft and meshing with said toothed sectors, lazy tong arms connecting with said sectors and said bars, movable planks supported between said arms and adapted to longitudinally aline, a collapsible railing supported by said arms and connecting with said sectors, toothed pitmen connecting with the lower ends of said bars, revoluble pinions supported between said standards and meshing with said toothed sectors, means for revolving said pinions, and means for locking the last mentioned means in a closed position.

4. A gang-plank comprising a revoluble platform, standards carried by said platform, a shaft journaled in said standards, a plank fixed upon said shaft between said standards, toothed sectors loosely mounted upon said shaft, bars fixed upon said shaft, a shaft journaled in the lower ends of said bars, pinions mounted upon said shaft and meshing with said toothed sectors, lazy tong arms connecting with said sector and said bar, movable planks supported between said arms and adapted to longitudinally aline, means

for connecting the ends of said planks, a collapsible railing supported by said arms and connecting with said sectors, toothed pitmen connecting with the lower ends of said bars, revoluble pinions supported between said standards and meshing with said toothed pitmen, means for revolving said pinions, and means for locking the last mentioned means in a fixed position.

5. A gang-plank comprising a revoluble platform, standards carried by said platform, a shaft journaled in said standards, a plank fixed upon said shaft between said standards, toothed sectors loosely mounted upon said shaft, bars fixed upon said shaft, a shaft journaled in the lower ends of said bars, pinions mounted upon said shaft and meshing with said toothed sectors, lazy tong arms connecting with said sectors and said bars, movable planks supported between said arms and adapted to longitudinally aline, means for connecting the ends of said planks, a collapsible railing supported by said arms and connecting with said sectors, toothed pitmen connecting with the lower ends of said bars, revoluble pinions supported between said standards and meshing with said toothed pitmen, means for revolving said pinions, means for locking the last mentioned means in a fixed position, and a stairway adapted to connect with the first mentioned plank.

In testimony whereof we affix our signatures in the presence of two witnesses.

ANDREW KELEMEN.
STEPHEN LÁZÁR.

Witnesses:

WM. COCHRAN,
J. E. WELCH.